
**HOUSE COMMITTEE ON ENERGY RESOURCES
TEXAS HOUSE OF REPRESENTATIVES
INTERIM REPORT 2002**

**A REPORT TO THE
HOUSE OF REPRESENTATIVES
78TH TEXAS LEGISLATURE**

**RON LEWIS
CHAIRMAN**

**COMMITTEE CLERK
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Committee On
Energy Resources

November 23, 2002

Ron Lewis
Chairman

P.O. Box 2910
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The Honorable James E. "Pete" Laney
Speaker, Texas House of Representatives
Members of the Texas House of Representatives
Texas State Capitol, Rm. 2W.13
Austin, Texas 78701

Dear Mr. Speaker and Fellow Members:

The Committee on Energy Resources of the Seventy-Seventh Legislature hereby submits its interim report including recommendations and drafted legislation for consideration by the Seventy-Eighth Legislature.

Respectfully submitted,

Ron Lewis, Chairman

Rep. Bill Carter

Rep. Wayne Christian

Rep. Joe Crabb

Rep. Joe Driver

Rep. Judy Hawley

Rep. Ann Kitchen

Rep. Tommy Merritt

Rep. Tommy Williams

Tommy Merritt
Vice-Chairman

Members: Bill Carter, Wayne Christian, Joe Crabb, Joe Driver, Judy Hawley, Ann Kitchen, Tommy Williams

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HOUSE COMMITTEE ON ENERGY RESOURCES

INTERIM STUDY CHARGES:

1. Study the dramatic increase in the price of natural gas during 2001 and the equally dramatic fall in those same prices since January 2001. Determine the reasons for such extreme volatility and evaluate efforts by state regulators to mitigate the impacts of such volatility on consumers.
2. Examine current interstate and intrastate pipeline statutes and regulations in effect in Texas. Consider special issues involved in conversion of older pipelines intended for transportation of crude oil to use for more volatile products.
3. Review production methods in the East Texas Oil Field and assess the degree to which they will result in maximum recovery of hydrocarbons from this unique reservoir. Evaluate the scientific basis for current production methods.
4. Gather information about the security of pipelines, refineries, oil and gas production facilities, and other facilities critical to processing hydrocarbons. Review government regulations and business practices to determine whether legislation is needed to protect life and property and to detect, interdict and respond to acts of terrorism.
5. Actively monitor the agencies under the committee's oversight jurisdiction.

CHARGE: (Natural Gas Price Fluctuations)

Study the dramatic increase in the price of natural gas during 2001 and the equally dramatic fall in those same prices since January 2001. Determine the reasons for such extreme volatility and evaluate efforts by state regulators to mitigate the impacts of such volatility on consumers.

DISCOVERY AND DETERMINATION OF THE COMMITTEE:

The rapid increase in natural gas prices during the winter of 2000-2001 was a perfect example of the economic law of supply and demand in action. There was not a large surplus of natural gas to begin with, and an unexpected winter cold snap suddenly increased demand. Naturally, prices took off.

In light of the scandal involving Enron, some blame has been directed toward them and possible market manipulation...perhaps rightfully. But industry analysts and reports still place a majority of the blame on natural market activity.

Natural gas prices are determined by supply and demand dynamics. Increases in productive capacity or supply often lag the market because of the time it takes to bring in new supply sources. Alternatively, demand can rise and fall rapidly, due to weather and the availability of other fuels at cheaper prices. These characteristics of the natural gas market can make prices volatile.

Prices during the winter of 2000 - 2001 were high due to the unlikely combination of numerous events that affect the demand and supply of natural gas:

- low gas drilling in previous years
- much colder than normal weather in November and December 2000
- low natural gas storage inventories
- high world crude oil prices
- higher gas demand for power generation during the summer

Summertime demands for natural gas have increased recently because the use of gas to produce electricity in modern gas turbine plants has been on the rise. As gas is used for electricity, the fuel has become part of the summer air conditioning cycle. The result is that gas usage is up 19 percent in the last two years while U.S. production has remained flat.

The majority of the natural gas used in the United States comes from domestic gas production. The remainder comes from imports, primarily from Canada, and withdrawals from storage facilities. Domestic gas production and imported gas are generally more than enough to satisfy customer needs during the summer, and any surplus production is placed into storage facilities.

During the winter, residential heating requirements increase total demand for natural gas in excess of production and import capabilities. Withdrawals of gas from storage provide the extra fuel needed to meet customer requirements. Having adequate supplies in storage at the start of

the heating season is an important part of meeting winter demand.

According to a January 2001 report from the Energy Information Administration (EIA) of the U.S. Department of Energy:

“The average wellhead price for gas (i.e., the cost of the gas itself, excluding transmission and distribution charges) was as low as \$0.16 per therm (or \$1.69 per thousand cubic feet (Mcf) in September 1998; whereas in September 2000 prices soared to \$0.41 per therm (\$4.26 per Mcf). This increase reflects a competitive market reaction as supply has lagged in its response to a recent surge in demand.

Although gas exploration and development increased significantly in the past year, the response to the increased drilling for gas has yet to be fully reflected in sufficient additional supplies to affect prices. This is because of the 6-to-18 month lag time between the time of initial drilling and when additional production is brought to the market.”

For the consumer, the price of natural gas is based primarily on the volume of gas delivered to the residence. It consists of three main parts:

Transmission costs – to move the gas by pipeline from its source (e.g., the Gulf Coast) to the local gas company (or utility).

Distribution costs – to bring the gas from the gas company to a residence or office. This tends to be the largest portion of the price to the customer.

Commodity costs – the cost of the gas itself. The local gas company passes the commodity cost to users without any additional markup.

Residential consumers pay more per unit of gas for local distribution than for interstate transportation of the natural gas over a longer distance. Interstate transportation pipelines require large capital investments, but the flow through each segment is large, which allows for lower unit costs. Local distribution of gas, on the other hand, is more costly because a massive network is required to deliver relatively smaller gas volumes at numerous delivery points. The large infrastructure required relative to the flow of gas results in higher capital and operating costs per unit.

The strongest insulation against wildly volatile natural gas prices would result from increasing the supply of natural gas through increased drilling of wells, and increasing capacity of stored reserves of gas.

CHARGE: (Pipeline Safety)

Examine current interstate and intrastate pipeline statutes and regulations in effect in Texas. Consider special issues involved in conversion of older pipelines intended for transportation of crude oil to use for more volatile products.

DISCOVERY AND DETERMINATION OF THE COMMITTEE:

Increased concern about the safety of pipeline networks (especially for those which have been in service for long periods) has arisen in the last few years, partly brought about by news coverage of the Longhorn Pipeline running from Houston, through Austin, to El Paso, and the fatal pipeline explosion August 19, 2000, in southeast New Mexico (near El Paso), in which eleven people were killed. When considering pipeline safety, it is difficult to separate the safety issues from environmental issues, since a safe pipeline is one that not only prevents risk to life and property, but also one that will not leak or burst, releasing oil or gas into the environment, causing environmental damage.

Interstate pipeline systems are regulated, inspected, and required to meet minimum standards set by the federal Office of Pipeline Safety (OPS) within the U.S. Department of Transportation. *Intrastate* pipelines must meet the same requirements as the federally regulated pipelines, but may have even more stringent regulations enforced by state regulators. In Texas, the state regulating agency is the Texas Railroad Commission (RRC), specifically, the Pipeline Safety Section of the Gas Services Division.

Through a federal/state partnership program, the federal OPS can fund up to 50% of the state's actual cost to carry out its pipeline safety programs. According to RRC staff, in the past two years, Texas funding through the program has been about 44%. The 6% shortfall from complete funding equals approximately \$300,000, and is due to Texas' "One Call" program not fully meeting national "Best Practices" standards.

"Best Practices" refers to a study of damage-prevention efforts for underground utilities, and are recognized by experts in damage prevention to be most effective in preventing damage to such facilities and protecting the public, excavators, and the environment. The findings of the study were published in 1999 in a 262-page report entitled, "Common Ground Study of One-Call Systems and Damage Prevention Best Practices."

The report states:

"The purpose of the Common Ground Damage Prevention Best Practices Study was to identify and validate existing best practices performed in connection with underground facilities damage prevention. The Study focused on gathering and assessing information to determine which existing one-call notification system practices were most effective in protecting the public, excavators, and the environment, and preventing disruptions to public services and underground facilities. All findings contained in this Study are intended for use by state agencies, one-call center operators, underground facility owners/operators,

contractor organizations, and other stakeholders who are impacted by or have an impact upon underground facilities. The practices should be further examined and evaluated for incorporation into the development of or improvement to underground facilities damage prevention programs.”

Texas’ One Call system does not meet 100% of the “Best Practices” standards because, for example, some utilities that are recommended to be included in the list of participating utilities are omitted. These utilities include water and sewer lines, many of which are so old, even the utilities don’t know exactly where they are; and oil well gathering lines. The majority of gathering lines are in rural areas, where they are still vulnerable to rupture by farming activities, but pose somewhat less of a danger to the population. Some urban gathering lines do fall under the jurisdiction of the RRC, but not all.

**JURISDICTION OF FACILITIES
UNDER THE PIPELINE SAFETY ACT
FEDERAL AND STATE JURISDICTION**

	Natural Gas	Hazardous Liquids	Crude Oil	Sour Gas
Interstate				
Transmission	DOT	DOT	DOT	NR
Urban Gathering	DOT	DOT	DOT	NR
Rural Gathering	NR	N/A	NR	NR
Offshore(OCS)	DOT/MMS	DOT/MMS	DOT/MMS	NR
Intrastate				
Transmission	RRC	RRC	RRC	RRC
State Offshore	RRC	RRC	RRC	RRC
Urban Gathering	RRC	RRC	RRC	RRC
Rural Gathering	NR	NR	NR	NR
Lease/Flow Lines(bay & offshore)	RRC	RRC	RRC	RRC
Distribution	RRC	N/A	N/A	N/A
Master Meter	RRC	N/A	N/A	N/A

DOT - Department of Transportation, Office of Pipeline Safety
MMS - Minerals Management Service
RRC - Railroad Commission of Texas, Pipeline Safety
NR - Railroad Commission jurisdiction, not regulated
N/A - No regulations applicable

Widespread reliance on pipelines is partially due to their advantage as a means of transporting oil, gas, water, or other material because they are cheaper to operate and can move a quantity of product without adding as much pollution to the air as would occur from the emissions of a large fleet of trucks needed to move a comparable amount of product. Additionally, pipelines are not likely to be involved in crashes, spilling contents on the highways. They do not generally contribute to traffic jams, they do not block railroad crossings, or cause wear and tear on transportation infrastructure. They essentially operate out of sight, silently, in a nearly enclosed environment, underground.

Paradoxically, this “swept under the rug” arrangement also is where lies most problems with pipelines:

- 1) Landowners/developers often don’t take into consideration their proximity to pipelines, either through ignorance or oversight. Only when a controversy or accident occurs, do they realize the danger.
- 2) Damage can be inflicted by landowners/excavators unaware of the location of a pipeline.

Leakage incidents can be classified in three ways:

- *Natural hazard failures*: due to corrosion, soil shifting, and weather.
- *Mechanical failures*: due to operational errors such as over pressure; engineering flaws such as overly-large diameter pipe or insufficient wall thickness; and shallow burial depth.
- *Third party failure*: due to excavation, land use, heavy population density, and road or railway crossings.

The leading cause of damage to pipelines is third-party excavation, and the second most common cause is corrosion. Corrosion can largely be prevented by cathodic protection which is required on all regulated pipelines in Texas. Third-party damage accounts for 60-75% of all pipeline damage in Texas, according to RRC staff.

The single most critical component of underground facility damage prevention is communication between all groups involved. Although communication improvement is often cited as the solution to nearly every situation, it is especially identified as a critical factor to successful application of the Common Ground Study findings. The exchange of accurate and timely information during the damage prevention process, coupled with a genuine interest by all stakeholders for a successful outcome will result in successful damage prevention. Simply put, ALL facility owners and operators need to be members of One-Call centers and need to respond if they have facilities that could be affected by excavation, and ALL excavators must call before they dig.

According to the “Common Ground” study, keys for the prevention of excavation damage to underground facilities include:

- Facility owners/operators are members of one-call centers in the areas in which they have underground facilities (this includes active, out of service, and abandoned facilities).
- One-call centers maintain accurate mapping data files that reflect which facility owners/operators have underground facilities in the area of the proposed

excavation.

- A notice of intent to excavate in an identified area in advance of an excavation is always made to the appropriate one-call center.
- One-call centers analyze excavation notices to identify members with facilities in the excavation area.
- One-call centers notify any potentially affected facility owners/operators.
- Underground facilities are accurately located and marked prior to excavation.
- Excavators exercise proper and safe excavation practices.

Converting Pipeline Service:

Reactivation of dormant pipelines and conversion of pipelines originally used to carry a moderately volatile substance, to carry a more volatile substance, have become a concern in recent years. The Texas RRC and federal OPS have structured pipeline safety requirements to allow flexibility in service while still maintaining oversight and review. This flexibility is needed as changing economic conditions and industrial development in the state affect the demand for different products and services.

The issue with property owners adjacent to a pipeline, is that by reactivating or converting a pipeline, they get more than they bargained for when they originally accepted a location proximate to a pipeline, and many feel they are not fully informed of potential risks. Representatives of local communities, through their elected or appointed representatives, need to be able to participate in hearings and comment on operating permits granted to older pipelines running through neighborhoods and near schools.

Additionally, there should be better coordination between all state and local agencies to understand and assess risk. In addition to the RRC, other agencies such as the General Land Office, Texas Natural Resources Conservation Commission, and Parks and Wildlife should be charged with studying, assessing and determining recommendations with regard to granting operating permits.

CHARGE: (East Texas Oilfield Production Methods)

Review production methods in the East Texas Oil Field and assess the degree to which they will result in maximum recovery of hydrocarbons from this unique reservoir. Evaluate the scientific basis for current production methods.

DISCOVERY AND DETERMINATION OF THE COMMITTEE:

The committee didn't address this issue during the interim. The issue was considered during the 77th Legislative session by both the House and Senate in the form of HB 2436, by Merritt, "Relating to a requirement that the Bureau of Economic Geology of The University of Texas at Austin conduct a study of the East Texas Oil Field." The legislation was vetoed by the Governor. It is the opinion of the Committee that additional study of this issue is not necessary, and expense of State resources for its study would not be prudent at this time.

CHARGE: (Terrorism)

Gather information about the security of pipelines, refineries, oil and gas production facilities, and other facilities critical to processing hydrocarbons. Review government regulations and business practices to determine whether legislation is needed to protect life and property and to detect, interdict and respond to acts of terrorism.

DISCOVERY AND DETERMINATION OF THE COMMITTEE:

During a committee hearing, May 15, 2002, the following statistics regarding the petroleum industry in Texas were reported by Railroad Commission Chairman, Michael L. Williams:

Texas produces 21% of the domestically produced crude oil, 25% of the domestically produced natural gas, and 5% of the nation's coal production. Additionally, Texas has 26% of the crude oil refining capacity of the entire U.S., and Texas ports receive over 30% of the crude oil imported into the U.S.

These figures highlight Texas' critical importance to America's energy supply, and the need to guard against possible terrorist actions to inhibit our ability to maintain this supply. Not surprisingly, the Governor's Task Force on Homeland Security has identified Texas' oil and gas infrastructure as a potential target for future terrorist attacks.

Individual oil or gas wellheads are easy targets, but not likely to be chosen by terrorists because they are too widely spread, mostly in rural areas, and overall not of great significance individually. However, large storage tank facilities that hold oil awaiting transport could be vulnerable, and production of oil would have to be interrupted until alternate storage or transportation could be arranged. The more vulnerable link in natural gas production would be the pipelines used to deliver the gas.

Since most pipeline facilities are below ground, they do not provide easily accessible targets. However, major hubs, compressor stations, exposed river crossings and processing plants do provide some areas of increased vulnerability.

According to Chairman Williams, the Railroad Commission has ranked facilities at three levels of vulnerability/destructive value:

MOST disruption or possible casualties:

- Underground storage facilities for propane and other liquefied petroleum products, and
- Primary petroleum market hubs.

LIMITED disruption or possible casualties:

- Hydrogen sulfide production facilities and pipelines, and
- Pipelines in general.

LOWER impact:

Oil & gas production facilities, and
Rail yards and rail lines.

As pointed out in the January report from the Governor's Task Force on Homeland Security, other than for nuclear power plants, there are very limited requirements for industry to adopt minimum security standards for their infrastructure facilities. As facilities are identified that are considered critical to maintaining public services, regulatory agencies should have the authority to require certain security standards to help protect these facilities.

The 78th Legislature should consider directing all state agencies with regulatory authority over critical infrastructure industries to require the development and maintenance of periodic Security Impact Reports (SIRs). Most such industries have already developed emergency preparedness plans, but those plans have generally addressed risks from naturally occurring, "acts of God," or accidental events, and not intentional terrorist acts.

As part of this recommendation, agencies should be directed to develop incentives that could encourage industry to strengthen the security of its critical infrastructure. Additionally, state agencies should consider any federal requirements industries must meet in an attempt not to create any unnecessary burdens or duplication of effort.

Besides strengthening security, and increasing our preparedness to deal with a threat, one recurring theme among all groups discussing Homeland Security, has been the need for fast, accurate sharing and dissemination of threat information.

Attorney General John Cornyn, addressing the Governor's Task Force on Homeland Security, November 27, 2001 said:

"There is no single state portal for the transmission of the information between the federal and the state and the local level to make sure that this information ... critical information ... is shared in a timely fashion. Unless we are communicating, we risk sacrificing time, resources, and effectiveness, and, in short, we sacrifice our security."

Government will not be able to afford the kind of security resources needed to protect always, and everywhere. It can, however, seek to ensure the most efficient information sharing processes possible. Federal agencies are acting to improve communication, but if the state does not develop a mechanism to participate in and contribute to the flow of critical information, our citizens and first-line responders may become aware of threats only after it is too late. Additionally, the state should work to understand and remove any legal barriers, which make it difficult for both public and private sector parties to share information that could contribute to a more complete picture of terrorist activities.

Finally, the following recommendations were made by the Infrastructure Subcommittee of the

Governor's Task Force on Homeland Security, and should be applied to the oil & gas, and pipeline industry of Texas:

- Request the federal Office of Homeland Security to evaluate initiating limited background checks for people employed in critical infrastructure.
- Request the federal Office of Homeland Security to coordinate an analysis among federal agencies and publish recommendations that government and industry can use to evaluate their infrastructure risks.
- Develop security standards for industries identified as critical infrastructure assets and require them to submit security impact reports (SIRs).
- Establish a centralized point of contact for intelligence information involving critical infrastructure.
- Use state warning systems to communicate warnings and safety information to authorities and the public.